

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 March 2004 (04.03.2004)

PCT

(10) International Publication Number
WO 2004/018506 A3

(51) International Patent Classification⁷: **C07K 14/18**,
C12N 9/12, 15/86, A61K 48/00, C12N 5/10, 7/04, A01K
67/027

CH-8802 Kilchberg (CH). SAUDAN, Philippe [CH/CH];
Dürrenrainstrasse 20, CH-8422 Pfungen (CH).

(21) International Application Number:

PCT/EP2003/009291

(74) Agents: **WELCH, Andreas** et al.; Hepp, Wenger & Ryffel
AG, Friedtalweg 5, CH-9500 Wil (CH).

(22) International Filing Date: 21 August 2003 (21.08.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/404,928 22 August 2002 (22.08.2002) US
60/432,259 11 December 2002 (11.12.2002) US

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **CYTOS
BIOTECHNOLOGY AG** [CH/CH]; Wagistrasse 25,
CH-8952 Zürich-Schlieren (CH).

(72) Inventors; and

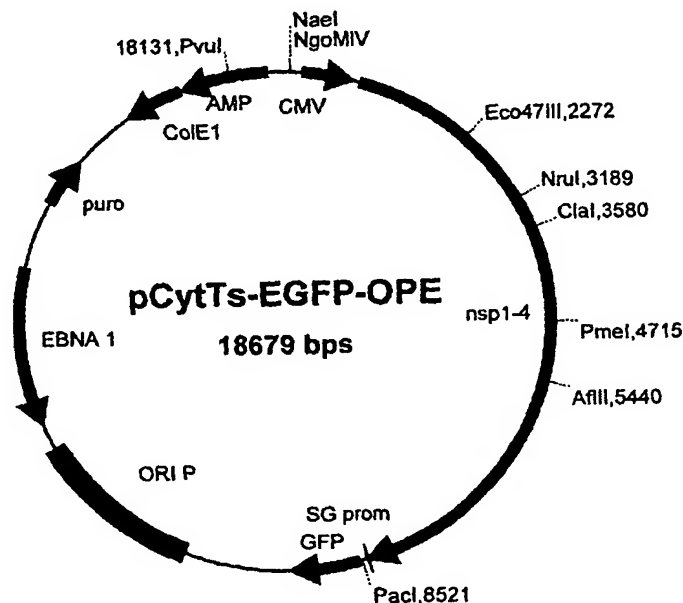
(75) Inventors/Applicants (*for US only*): **IVANOVA, Lidia**
[US/CH]; Schulstrasse 31, CH-8952 Zürich-Schlieren
(CH). **RENNER, Wolfgang, A.** [CH/CH]; Grenzsteig 9,

Published:

— with international search report

[Continued on next page]

(54) Title: INDUCIBLE ALPHAVIRAL/ORIP BASED GENE EXPRESSION SYSTEM



(57) Abstract: The present invention relates to compositions and methods that allow the production of polypeptides and untranslated RNA molecules in host cells. More specifically, the invention provides nucleic acid molecules, expression systems, recombinant host cells, methods and kits, which enable the production and/or isolation and/or purification of polypeptides and untranslated RNA molecules. The compositions and methods of the invention can be applied in a regulatable expression system that is transiently transfected into mammalian host cells.



(88) Date of publication of the international search report:
22 April 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/18 C12N9/12 C12N15/86 A61K48/00 C12N5/10
C12N7/04 A01K67/027

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99 50432 A (RENNER WOLFGANG A ;NIEBA LARS (CH); CYTOS BIOTECHNOLOGY AG (CH); B) 7 October 1999 (1999-10-07) cited in the application the whole document	
A	WENDELBURG ET AL: "AN ENHANCED EBNA1 VARIANT WITH REDUCED IR3 DOMAIN FOR LONG-TERM EPISOMAL MAINTENANCE AND TRANSGENE EXPRESSION OF ORIP-BASED PLASMIDS IN HUMAN CELLS" GENE THERAPY, MACMILLAN PRESS LTD., BASINGSTOKE, GB, vol. 5, May 1998 (1998-05), pages 1389-1399, XP002931315 ISSN: 0969-7128 abstract	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

16 January 2004

Date of mailing of the international search report

30/01/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Meyer, W

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 98 13511 A (US HEALTH ;MORGAN RICHARD (US); WAHLFORS JARMO (US); XANTHOPOULOS) 2 April 1998 (1998-04-02) the whole document ----	
P,X	BOORSMA MARCO ET AL: "Alphavirus cDNA-based expression vectors: Effects of RNA transcription and nuclear export." BIOTECHNOLOGY AND BIOENGINEERING, vol. 81, no. 5, 5 March 2003 (2003-03-05), pages 553-562, XP002267157 ISSN: 0006-3592 the whole document -----	1-85

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9950432	A	07-10-1999	AU 757549 B2	27-02-2003
			AU 2848199 A	18-10-1999
			CA 2325564 A1	07-10-1999
			DE 1066395 T1	04-04-2002
			EP 1066395 A1	10-01-2001
			WO 9950432 A1	07-10-1999
			JP 2002509729 T	02-04-2002
			NZ 507195 A	25-07-2003
			US 2003053988 A1	20-03-2003
WO 9813511	A	02-04-1998	AU 4737597 A	17-04-1998
			WO 9813511 A1	02-04-1998
			US 2002173038 A1	21-11-2002